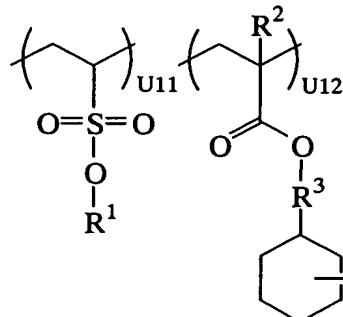
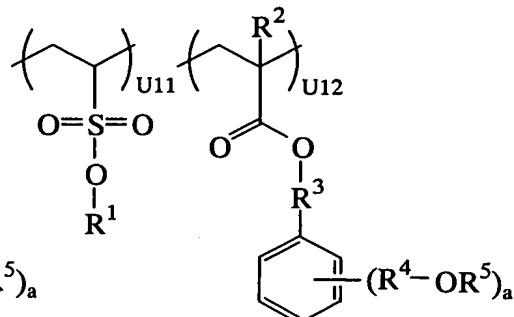


CLAIMS:

1. A polymer comprising recurring units of the following general formula (1a) or (1b) and having a weight average molecular weight of 1,000 to 500,000,



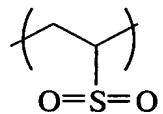
(1a)



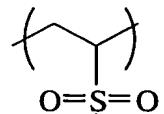
(1b)

wherein R¹ is an acid labile group, an adhesive group or a straight, branched or cyclic fluorinated alkyl group of 1 to 20 carbon atoms which may contain a hydrophilic group such as hydroxyl, R² is hydrogen, fluorine or a straight, branched or cyclic alkyl or fluorinated alkyl group of 1 to 20 carbon atoms, R³ and R⁴ each are a single bond or a straight, branched or cyclic alkylene or fluorinated alkylene group of 1 to 20 carbon atoms, R⁵ is hydrogen or an acid labile group, "a" is 1 or 2, U11 and U12 are numbers satisfying 0 < U11 < 1 and 0 < U12 < 1.

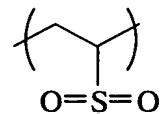
2. The polymer of claim 1 wherein the sulfonate units included in the formulae (1a) and (1b) are selected from the following general formulae (2a) to (2f):



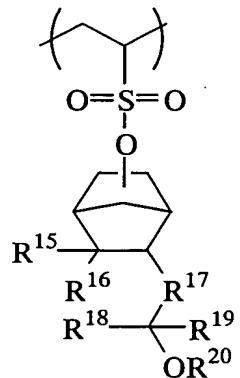
(2a)



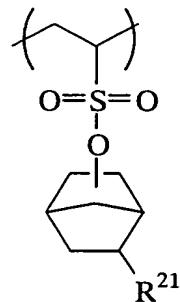
(2b)



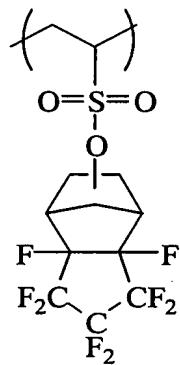
(2c)



(2d)



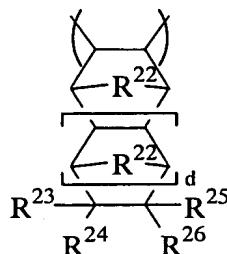
(2e)



(2f)

5 wherein R⁶, R⁷, R⁹, R¹⁰ and R¹⁷ each are a single bond or a straight, branched or cyclic alkylene or fluorinated alkylene group of 1 to 20 carbon atoms, R⁸, R¹¹, R¹⁴ and R²⁰ each are hydrogen or an acid labile group, R¹², R¹³, R¹⁵, R¹⁶, R¹⁸ and R¹⁹ each are hydrogen, fluorine or a straight, branched or cyclic
10 alkyl or fluorinated alkyl group of 1 to 20 carbon atoms, at least one of R¹⁸ and R¹⁹ contains at least one fluorine atom, R²¹ is a straight, branched or cyclic fluorinated alkyl group of 1 to 20 carbon atoms, and each of b and c is 1 or 2.

3. The polymer of claim 1, further comprising recurring units of the following general formula (3):



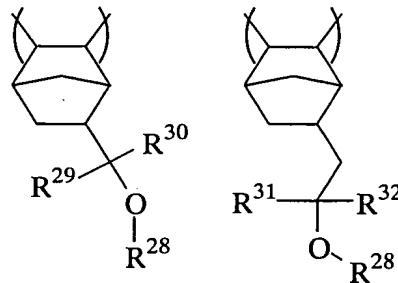
(3)

wherein R²² is a methylene group, oxygen atom or sulfur atom.

5 R²³ to R²⁶ each are hydrogen, fluorine, -R²⁷-OR²⁸, -R²⁷-CO₂R²⁸ or
a straight, branched or cyclic alkyl or fluorinated alkyl
group of 1 to 20 carbon atoms, at least one of R²³ to R²⁶
contains -R²⁷-OR²⁸ or -R²⁷-CO₂R²⁸, R²⁷ is a single bond or a
straight, branched or cyclic alkylene or fluorinated alkylene
group of 1 to 20 carbon atoms, R²⁸ is hydrogen, an acid
labile group, an adhesive group or a straight, branched or
cyclic fluorinated alkyl group of 1 to 20 carbon atoms which
may contain a hydrophilic group such as hydroxyl, and d is 0
or 1.

15

4. The polymer of claim 3 wherein said recurring units of formula (3) have a structure of the following general formula (3a) or (3b):



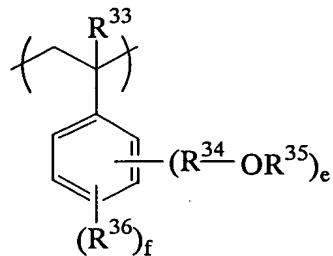
(3a)

(3b)

20 wherein R²⁸ is as defined above, R²⁹ to R³² each are hydrogen, fluorine or an alkyl or fluorinated alkyl group of 1 to 4

carbon atoms, at least either one of R²⁹ and R³⁰ contains at least one fluorine atom, and at least either one of R³¹ and R³² contains at least one fluorine atom.

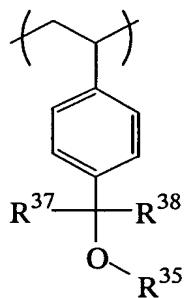
5 5. The polymer of claim 1, further comprising recurring units of the following general formula (4):



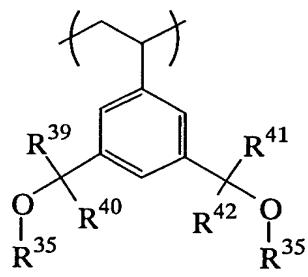
(4)

wherein R³³ is hydrogen, fluorine or a straight, branched or cyclic alkyl or fluorinated alkyl group of 1 to 20 carbon atoms, R³⁴ is a single bond or a straight, branched or cyclic alkylene or fluorinated alkylene group of 1 to 20 carbon atoms, R³⁵ is hydrogen or an acid labile group, R³⁶ is fluorine or a straight, branched or cyclic fluorinated alkyl group of 1 to 20 carbon atoms, e is 1 or 2, and f is an integer of 0 to 4, satisfying 1 ≤ e+f ≤ 5.

6. The polymer of claim 5 wherein the recurring units of formula (4) have the following formula (4a) or (4b):



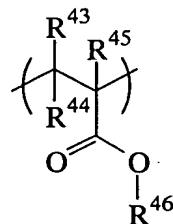
(4a)



(4b)

wherein R³⁵ is as defined above, R³⁷ to R⁴² each are hydrogen, fluorine or an alkyl or fluorinated alkyl group of 1 to 4 carbon atoms, at least either one of R³⁷ and R³⁸ contains at least one fluorine atom, at least either one of R³⁹ and R⁴⁰ 5 contains at least one fluorine atom, and at least either one of R⁴¹ and R⁴² contains at least one fluorine atom.

7. The polymer of claim 1, further comprising recurring units of the following general formula (5):



(5)

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wherein R⁴³ to R⁴⁵ each are hydrogen, fluorine or a straight, branched or cyclic alkyl or fluorinated alkyl group of 1 to 20 carbon atoms, and R⁴⁶ is hydrogen, an acid labile group, an adhesive group or a straight, branched or cyclic 15 fluorinated alkyl group of 1 to 20 carbon atoms which may contain a hydrophilic group such as hydroxyl.

8. The polymer of claim 7 wherein R⁴⁵ in formula (5) is trifluoromethyl.

20

9. A resist composition comprising the polymer of claim 1.

10. A chemically amplified positive resist composition comprising

- 25 (A) the polymer of claim 1,
(B) an organic solvent, and
(C) a photoacid generator.

11. The resist composition of claim 10, further comprising

- 30 (D) a basic compound.

12. The resist composition of claim 10, further comprising
(E) a dissolution inhibitor.

13. A process for forming a pattern comprising the steps
5 of:

applying the resist composition of claim 9 onto a
substrate to form a coating,

heat treating the coating and then exposing it to
high-energy radiation in a wavelength band of 100 to 180 nm
10 or 1 to 30 nm through a photomask, and

optionally heat treating the exposed coating and
developing it with a developer.

14. The pattern forming process of claim 13 wherein the
15 high-energy radiation is an F₂ laser beam, Ar₂ laser beam or
soft x-ray.